Fixed Mobile Convergence and 5G - 3GPP-BBF standardization activities

Georgios Karagiannis - Huawei

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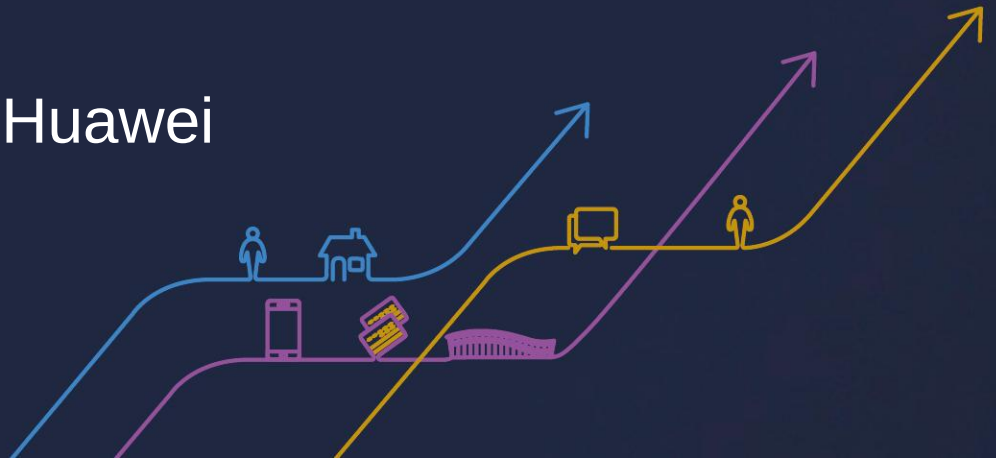

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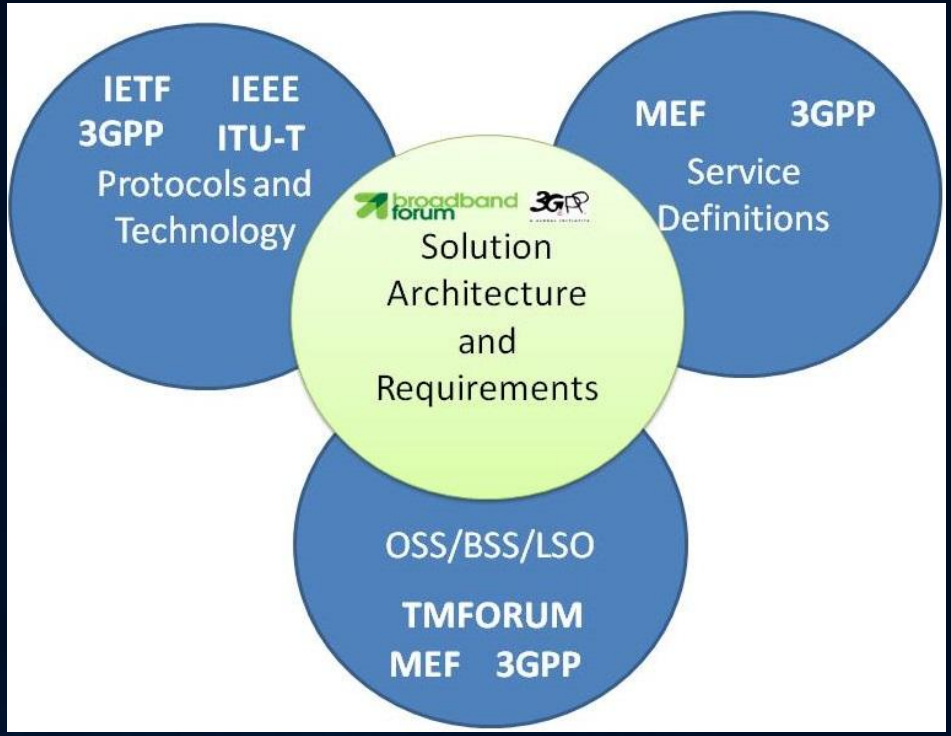
Motivation for FMC (operator's view)

- Seamless service experience is key for operator's customers and drives the need for full FMC:
  - Digital society demands drive 5G, according to NGMN vision for the 5G development
  - Seamless service experience for overarching, access-independent (incl. fixed, wireless and cellular customer access) context
- Need to improve infrastructure efficiency:
  - Access-agnostic, common core network architecture, leveraging the flexibility of virtualized and programmable, fixed and mobile combined network functions
  - Multiple simultaneous connections across multiple access technologies
  - Unified authentication framework across different access systems
  - Common resource management
- Standardization of FMC needs alignment and cooperation between relevant bodies, avoiding duplication of efforts

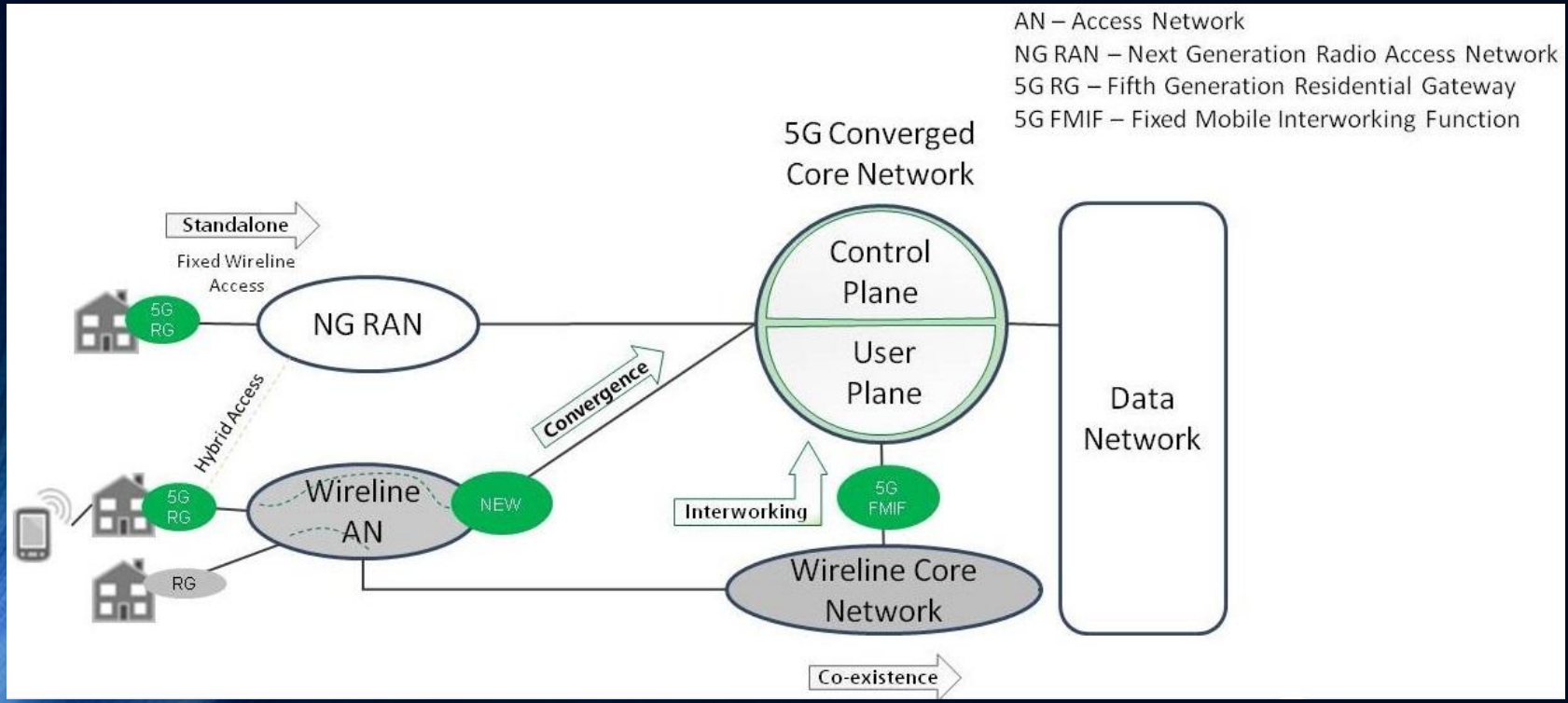
FMC SDO landscape



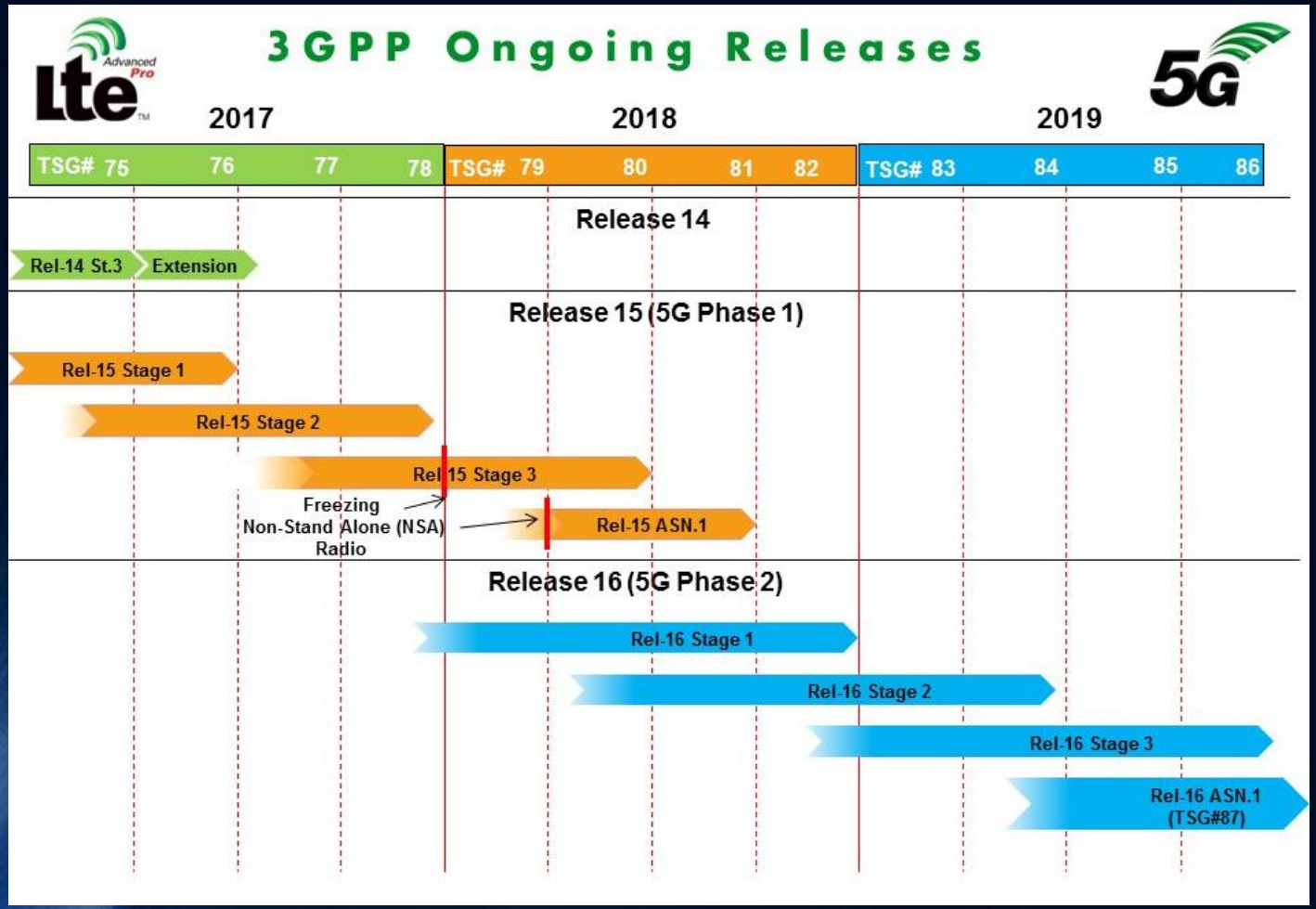
5G FMC status

- Joint activities of 3GPP and BBF on 5G FMC study
  - 2017-02, 3GPP-BBF joint workshop agreement on 5G FMC collaboration between two SDOs; Operators requested FMC architecture be studied in Rel-15 and specified in Rel-16
  - 2017-03 3GPP SA2 approved FS_5WWC - Wireless Wireline Convergence (TR 23.716) and FS_ATSSS - Access Traffic Steering, Switch and Splitting (TR 23 793) => June/Sept. 2018
  - 2017-03, BBF Q1 meeting approved (1) SD-407 to study FMC architecture and requirements to 5G core and (2) SD-406 to study on End-to-End Network Slicing
- Currently, BBF is working on FMC models, documented in SD-407
  - Integration Model (more convergence), which requires new functions to be specified by BBF
  - Interworking Model to mitigate impact to BBF Fixed Network, which requires a fixed mobile interworking function
  - Hybrid access model - simultaneous fixed mobile access (can be based on either integration or interworking model)
  - Coexistence model: coexistence of legacy Fixed AN and the new 5G enabled fixed AN network
- End of 2017, BBF is expected to provide inputs to 3GPP on FMC impacts to 5G core
  - Potential changes in 5G CN (Core Network)
  - Access Network (AN) - Core Network (CN) Interfaces:
    - N1 (user equipment – CN), N2 (AN – control plane of CN),
    - N3 (AN – user plane of CN), N4 (user plane – control plane of CN)

5G FMC: BBF High Level Architecture



Source: based on BBF


3GPP Ongoing Releases
LTE Advanced Pro
5G
2017
2018
2019
TSG# 75
76
77
78
TSG# 79
80
81
82
TSG# 83
84
85
86
Release 14
Rel-14 St.3
Extension
Release 15 (5G Phase 1)
Rel-15 Stage 1
Rel-15 Stage 2
Rel-15 Stage 3
Freezing
Non-Stand Alone (NSA)
Radio
Rel-15 ASN.1
Release 16 (5G Phase 2)
Rel-16 Stage 1
Rel-16 Stage 2
Rel-16 Stage 3
Rel-16 ASN.1
(TSG#87)

Source: 3GPP

Thank you !